

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (previously presented): A communications method,
2 the method comprising:
3 operating an access node to receive a data message
4 directed to an end node; and
5 operating the access node to determine a paging
6 requirement using packet classification based on a header
7 field included in said data message.

1 Claim 2 (previously presented): The method of claim 1,
2 wherein said paging requirement is determined as a
3 function of at least one of a quality of service indicator,
4 a type indicator, a source indicator, and a destination
5 indicator; and
6 wherein said access node is a base station, the
7 method further comprising:
8 operating said access node to allocate a paging
9 transmission resource for transmitting a page as a function
10 of the determined paging requirement, at least some of said
11 plurality of paging requests having different determined
12 paging requirements resulting in different allocation of
13 access node resources.

1 Claim 3 (previously presented): The method of claim 2,
2 further comprising:
3 operating said access node to transmit a page over a
4 wireless communications link using the allocated paging
5 transmission resource.

1 Claim 4 (previously presented): The method of claim 3,
2 wherein said step of transmitting a page includes
3 incorporating, into said page, information indicating a
4 state of device operation in which a device to which said
5 page is directed is to operate after receiving said page.

1 Claim 5 (previously presented): The method of claim 2,
2 further comprising:
3 operating said access node to communicate a paging
4 signal to a second node, indicating allocation of a paging
5 transmission resource for use in transmitting a page
6 corresponding to said received data message.

1 Claim 6 (previously presented): The method of claim 1,
2 further comprising:
3 operating said access node to communicate said
4 determined paging requirement to a second node in a paging
5 request message.

1 Claim 7 (previously presented): The method of claim 6,
2 wherein said paging request message includes at least a
3 portion of said received data message.

1 Claim 8 (original): The method of claim 7, wherein said
2 determined paging requirement, indicated in said paging
3 request message, is that said portion be included in a
4 page.

1 Claim 9 (original): The method of claim 6, wherein said
2 determined paging requirement, indicated in said paging
3 request message, is that a page be acknowledged.

1 Claim 10 (original): The method of claim 6, wherein said
2 determined paging requirement, indicated in said paging
3 request message, is a quality of service.

1 Claim 11 (original): The method of claim 10, wherein said
2 quality of service includes a page transmission timing
3 constraint.

1 Claim 12 (original): The method of claim 10, wherein said
2 quality of service is one of a plurality of levels.

1 Claim 13 (original): The method of claim 10, wherein said
2 quality of service requires that a page be transmitted
3 multiple times.

1 Claim 14 (original): The method of claim 10, wherein said
2 quality of service requires retransmission of a page at
3 least once in the absence of an acknowledgment.

1 Claim 15 (previously presented): The method of claim 14,
2 further comprising:
3 operating the second node to cause said retransmission
4 of said page to be into a geographic area larger than an
5 initial transmission area of said page.

1 Claim 16 (previously presented): The method of claim 6,
2 wherein said determined paging requirement, indicated
3 in said paging request message, is a quality of service
4 level; and
5 wherein said paging request message includes paging
6 resource allocation information indicating a fraction of a
7 paging resource to be allocated by said second node to
8 pages having said quality of service level, the method
9 further comprising:

10 operating the second node to allocate said fraction of
11 said paging resource to pages having a quality of service
12 level indicated in said paging request message.

1 Claim 17 (original): The method of claim 6, further
2 comprising:

3 operating said second node to allocate a paging
4 transmission resource for transmitting a page, as a
5 function of said determined paging requirement, indicated
6 in said paging request message.

1 Claim 18 (original): The method of claim 17, further
2 comprising:

3 operating said second node to transmit a page using
4 the allocated paging transmission resource.

1 Claim 19 (previously presented): The method of claim 17,
2 further comprising:

3 operating said second node to communicate a paging
4 signal to a third node, indicating allocation of a paging
5 transmission resource for use in transmitting a page
6 corresponding to said data message.

Claims 20-26 (canceled)

1 Claim 27 (previously presented): A communications system
2 comprising:

3 a base station including:

4 i) means for receiving a data message directed to an end
5 node; and
6 ii) means for determining a paging requirement using packet
7 classification based on a header field included in said
8 data message, said paging requirement being determined as a
9 function of at least one of a quality of service indicator,

10 a type indicator, a source indicator, and a destination
11 indicator.

1 Claim 28 (previously presented): The system of claim 27,
2 wherein said base station, further comprises:
3 means for allocating a paging transmission resource
4 for transmitting a page as a function of a determined
5 paging requirement.

1 Claim 29 (previously presented): The system of claim 28,
2 wherein said base station further includes a radio
3 transmitter for transmitting a page using the allocated
4 paging transmission resource.

1 Claim 30 (previously presented): The system of claim 29,
2 wherein said base station further includes:
3 means for generating a paging request message
4 including information indicating said determined paging
5 requirement; and
6 means for transmitting said paging request message to
7 another node.

1 Claim 31 (previously presented): The system of claim 30,
2 wherein said paging request message includes at least a
3 portion of said received data message and wherein said
4 determined paging requirement, indicated in said paging
5 request message, is that said portion be included in a
6 page.

1 Claim 32 (original): The system of claim 30, wherein said
2 determined paging requirement, indicated in said paging
3 request message, is that a page be acknowledged.

1 Claim 33 (original): The system of claim 30, wherein said
2 determined paging requirement, indicated in said paging
3 request message, is a quality of service requirement.

1 Claim 34 (original): The system of claim 30, further
2 comprising:
3 a second node, said second node including:
4 i) means for receiving said paging request message;
5 ii) means for allocating at least one paging resource
6 as a function of paging requirement information included in
7 a received paging request message; and
8 iii) means for transmitting a page to a mobile node
9 using the at least one allocated paging resource.

1 Claim 35-45 (canceled):

1 Claim 46 (previously presented) A base station comprising:
2 a receiver module for receiving a data message
3 directed to an end node; and
4 a paging requirement determination module for
5 determining a paging requirement through the use of packet
6 classification based on a header field included in said
7 data message, said paging requirement being determined as a
8 function of at least one of a quality of service indicator,
9 a type indicator, a source indicator, and a destination
10 indicator.

1 Claim 47 (previously presented): The base station of claim
2 46, further comprising:
3 a resource allocation module for allocating a paging
4 transmission resource for transmitting a page as a function
5 of a determined paging requirement.

1 Claim 48 (previously presented): The base station of claim
2 47, further comprising:

3 a radio transmitter for transmitting a page using the
4 allocated paging transmission resource.

1 Claim 49 (currently amended): A machine readable medium
2 embodying machine executable instructions for controlling a
3 base station to implement a method, the method comprising:

4 ~~receive~~ receiving a data message directed to an end
5 node; and

6 ~~operating the access node to determine~~ determining a
7 paging requirement using packet classification based on a
8 header field included in said data message.

1 Claim 50 (previously presented): The machine readable
2 medium of claim 49,

3 wherein said paging requirement is determined as a
4 function of at least one of a quality of service indicator,
5 a type indicator, a source indicator, and a destination
6 indicator; and

7 wherein machine readable medium further embodies
8 machine executable instructions for controlling a base
9 station to perform the step of:

10 allocating a paging transmission resource for
11 transmitting a page as a function of the determined paging
12 requirement, at least some of said plurality of paging
13 requests having different determined paging requirements
14 resulting in different allocation of access node resources.

1 Claim 51 (previously presented): The machine readable
2 medium of claim 50, further embodying machine executable
3 instructions for controlling a base station to perform the
4 step of:

5 transmitting a page over a wireless communications
6 link using the allocated paging transmission resource.

1 Claim 52 (new) The method of claim 1, operating the access
2 node to determine a paging requirement using packet
3 classification based on a header field included in said
4 data message includes:
5 matching IP datagrams to specific paging requirements.

1 Claim 53 (new) The method of claim 1, further comprising:
2 storing paging requirement match criteria information
3 in said access node in conjunction with and corresponding
4 paging requirements information; and
5 wherein operating the access node to determine a
6 paging requirement using packet classification based on a
7 header field included in said data message includes:
8 using said stored paging requirement match criteria to
9 determine a paging requirement corresponding to said data
10 message.

1 Claim 54 (new) The base station of claim 46, wherein said
2 base station wherein said paging requirement determination
3 module includes:
4 a monitoring agent for determining if a page should be
5 initiated to a dormant end node;
6 a tracking agent for receiving location update signals
7 used to track the location of end nodes; and
8 an anchor paging agent that coordinates page request
9 signaling for dormant end nodes.

1 Claim 55 (new) The base station of claim 54, further
2 comprising:

3 a local paging agent for coordinating signaling
4 between said paging requirement determination module of
5 said base station and other base stations.

1 Claim 56 (new): An apparatus including a processor
2 configured to control an access node to implement a method,
3 the method comprising:
4 operating an access node to receive a data message
5 directed to an end node; and
6 operating the access node to determine a paging
7 requirement using packet classification based on a header
8 field included in said data message.

1 Claim 57 (new) The apparatus of claim 5, wherein said
2 second node is a second base station.